

### REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The non-final Office Action dated June 9, 2009 has been received and its contents carefully reviewed.

Claim 1 is hereby amended. No new matter has been added. Also, claims 3, 4, 8-12, 14 and 16-22 were previously cancelled. Accordingly, claims 1, 2, 5-7, 13 and 15 are currently pending. Reexamination and reconsideration of the pending claims are respectfully requested.

In the Office Action, Claims 1, 2, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (U.S. Patent No. 6,369,786, hereinafter, referred as Suzuki) in view of Hashimoto (U.S. Patent No. 7,113,156, hereinafter, referred as Hashimoto) and further in view of Kimura (US Pub: 2002/0105279, hereinafter referred as Kimura), and claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Hashimoto and further in view of Ishizuka et al. (U.S. Patent No. 6,756,951, hereinafter, referred as Ishizuka).

The rejection of claims 1, 2, 5-7, 13 and 15 are respectfully traversed and reconsideration is requested.

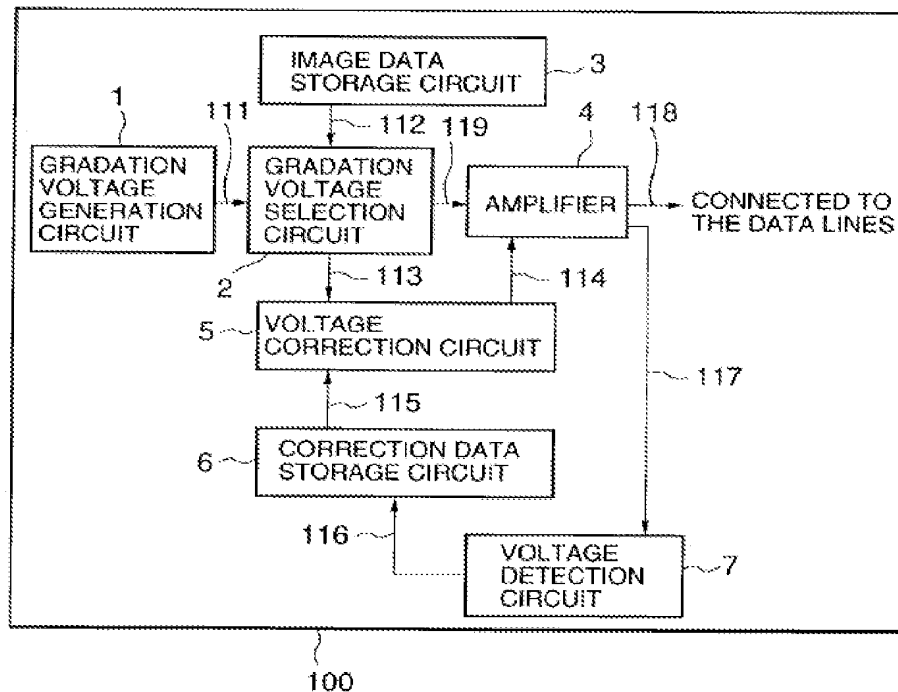
Applicants respectfully submit that claims 1 and 13 are patentable over Suzuki, Hashimoto and Ishizuka. **Independent Claim 1** recites an electro-luminescence display device having a combination of elements including, for example, “a gamma driver that generates a plurality of gamma voltage signals corresponding to image data and a plurality of gamma current signals corresponding to the image data; and a plurality of data driving circuits that apply the plurality of gamma voltage signals to the pixel cells along a data line during a first time of within the horizontal period and applying current signals corresponding the plurality of gamma current signals to the pixel cells along the data line during a second time within the horizontal period after the first time of the horizontal period, wherein each of the plurality of data driving circuits includes a voltage driver that applies the plurality of gamma voltage signals to the data lines to pre-charge the plurality of gamma voltage signals onto storage capacitors in the pixel cells, and a current driver that allows the plurality of gamma current signals to flow into the pixel cells”. **Independent Claim 13** recites a method of driving an electro-luminescence display device having a combination of elements

including, for example, “applying a plurality of gamma voltage value corresponding to image data from a voltage driver to data lines during a first time of within the horizontal period to pre-charge the plurality of gamma voltage value onto storage capacitors of the pixel cells; and applying a plurality of gamma current signals corresponding the image data to the data lines during a second time within the horizontal period after the first time”. Suzuki, Hashimoto and Ishizuka fail to teach, either expressly or inherently, at least these features of the claimed invention.

The Examiner asserted that Hashimoto teaches that Suzuki discloses a gamma voltage driver that generates a plurality of gamma voltage signals corresponding to image data; and applying the gamma voltage signal to follow into the pixel cells (i.e. the plurality of gradation related voltages in applied to the driver based on gamma characteristics) (see Fig. 11, Col. 5, Lines 1-50).

Fig. 11 of Hashimoto is a block diagram showing a data driver circuit of a display device. The data driver circuit (100) is to avoid a display error during detection of the correction data against the change in use conditions (such as temperature) by automatically inputting a signal to a correction signal at power-on. Hashimoto discloses the data driver circuit (100) including a gradation voltage generation circuit (1) generating a plurality of voltage values according to gamma characteristics of the liquid crystal and a gradation voltage selection circuit (2) selecting one value of the voltage values according to the digital image data displayed on a display device.

[Fig. 11 of Hashimoto]



On the other hand, the gamma driver of the claimed invention generates a plurality of gamma voltage signals corresponding to image data and a plurality of gamma current signals corresponding to the image data. Accordingly, Hashimoto fails to a gamma driver generating a plurality of gamma current signals corresponding to image data; and applying the gamma current signals to follow into the pixel cells.

Also, the Examiner asserted that a plurality of data driving circuits (i.e. each of the current and voltage supply CS and C components in 2 and 3) that apply a voltage signal to the pixel cells along a data line during a first time (T1) of within the horizontal period and apply current signals to the pixel cells during a second time (T2) within the horizontal period after the first time of the horizontal period (i.e. the first time is for precharging voltages T1 and the second period is of current driving period T2).

However, the precharge circuit (3) of the data driving circuit in Suzuki includes select switches C1 to Cx connected to the signal electrodes SiE1 to SiEx, and power sources 5 to supply power to the signal electrodes SiE via the and the selected switches C1 to Cx. And the power sources 5 provide the signal electrodes SiE1 to SiEx with the threshold voltage  $V_t$  at which the organic EL starts emitting light, via the selected switches C1 to Cx. That is, the

precharge circuit (3) of Suzuki provides the signal electrodes (data lines) SiE1 to SiEx with a same voltage  $V_t$  as shown in Fig. 4.

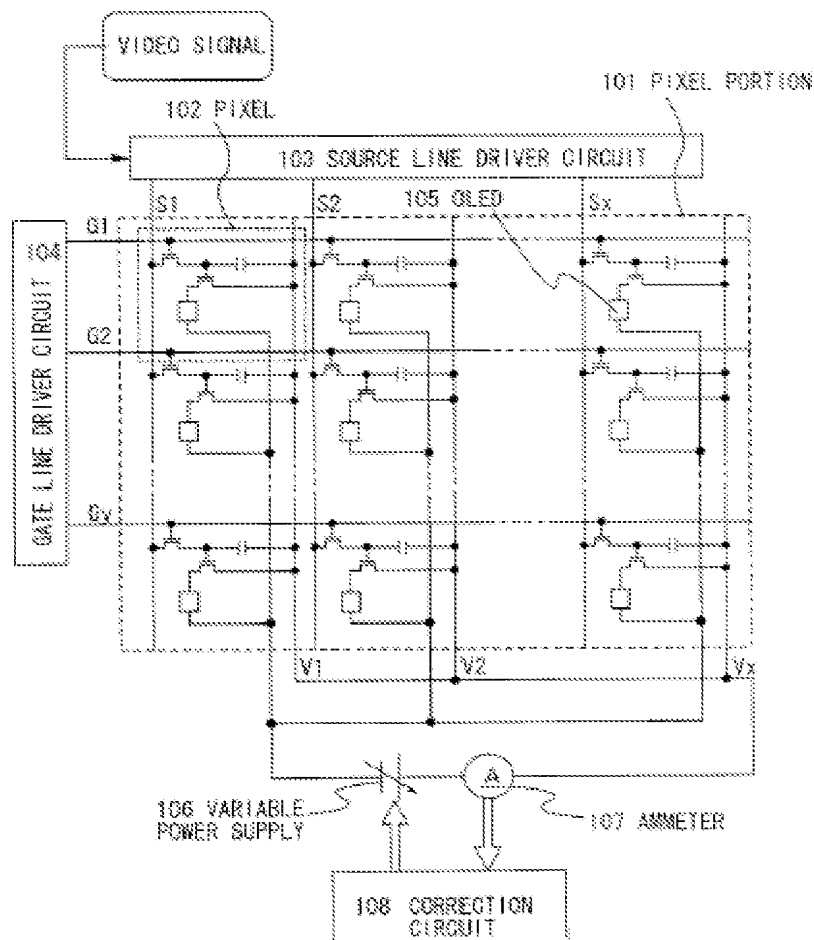
On the other hand, the voltage driver of claimed invention applies the plurality of gamma voltage signals corresponding to image data to the data lines to pre-charge the plurality of gamma voltage signals onto storage capacitors in the pixel cells. That is, the voltage driver of claimed invention provides the data lines with different voltages.

Accordingly, there is a difference in that the precharged voltages of the claimed invention are different from each data line because the gamma voltage signals corresponding to image data are supplied to the data lines, but the precharged voltages of Suzuki are the same in all data lines because the same voltage  $V_t$  is supplied to the data lines.

Furthermore, the gamma driver of the claimed invention generates a plurality of gamma voltage signals corresponding to image data and supplies the gamma voltage signals to the voltage driver (precharge circuit). Also, the gamma driver of the claimed invention generates a plurality of gamma current signals corresponding to the image data and supplies the gamma current signals to the current driver. However, Suzuki fails to disclose the technical features of the claimed invention.

Also, Kimura discloses a correction circuit 108, but it only controls the voltage to be supplied to the opposite electrode and to the power supply lines V1 to Vx from the variable power supply 106 based on a current value measured by the ammeter 107 as shown in Fig. 1. That is, Kimura fails to teach the data driving circuit applying the current signals corresponding the plurality of gamma signals to the pixel cells along the data line during a second time within the horizontal period after the first time of the horizontal period because the correction circuit of Kimura can not apply the current signals to the pixel cells along the data line.

[Fig. 1 of Kimura]



Accordingly, the combination of the Suzuki, Hashimoto, Kimura, and Ishizuka can't teach or suggest the above-mentioned features of the claimed invention because they fail to teach, either expressly or inherently, at least these features of the claimed invention.

As Applicants have presented above, claims 1 and 13 are allowable over Suzuki, Hashimoto, Kimura and Ishizuka. Applicants respectfully submit that claims 2, 5-7, 13 and 15 are patentable over Suzuki, Hashimoto, Kimura and Ishizuka by virtue of dependency from claims 1 or 13.

Applicants believe the application is in condition for allowance and early, favorable action is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to

discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911.

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Respectfully submitted,

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